1027-14-104 **S. Allen Broughton*** (allen.broughton@rose-hulman.edu), Department of Mathematics, Rose-Hulman Institute of Technology, 5500 Wabash Ave., Terre Haute, IN 47803. *Classifying Pairs of Fuchsian Groups of Finite Type.* Preliminary report.

A pair of finite type Fuchsian groups is often part of the answer to some questions in the theory of Riemann surfaces. First, if a Riemann surface has a known group of automorphisms is the group the full automorphism group of the surface? Second, the moduli space of surfaces of fixed genus may be stratified into a disjoint union of smooth subvarieties such that the automorphism group of each surface is topologically constant along the strata. When does one stratum lie in the closure of another? Third, the hyperbolic plane may be tiled by reflections in the sides of certain polygons. When does the tiling admit a refinement by a tiling generated by a polygon of smaller area? In each of these questions the answer is determined by a pair of Fuchsian groups $\Gamma \subset \Delta$ that satisfies certain algebraic properties. This report gives some preliminary classification results on pairs of Fuchsian groups when the difference of the Teichmüller dimensions (codimension) of the groups is small. The codimension zero case was determined some years ago in the context of classifying finitely maximal Fuchsian groups. (Received February 20, 2007)